PATENT
Attorney Docket No. 409549
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant:	Vande Berg
Serial No.:	09/911,993
Filed:	07/24/2001
Group Art Unit:	2876
Examiner:	Michael G. Lee
For:	APPARATUS AND METHOD FOR MOUNTING AN RF TAG ON A CONVEYOR TROLLEY

BRIEF

PURSUANT TO 37 C.F.R. § 1.192

I. Real Party in Interest

The real party in interest for this appeal is David M. Vande Berg, an individual residing at 770 Seventh Street N.W., Sioux Center, Iowa 51250

II. Related Appeals and Interferences

No other appeals or interferences are currently known to Appellant that will directly affect, be directly affected by, or have a bearing on the decision to be rendered by the Board of Patent Appeals and Interferences in the present appeal.

III. Status of Claims

Claims 1–23 stand rejected, and are pending for consideration in this appeal.

IV. Status of Amendments

An amendment to invoke an advisory action was filed subsequent to the Final Office Action issued on 11/10/2003. This amendment was not entered in the Advisory Action dated February 9, 2004. Thus, the pending claims for this appeal are 1-23.

V. Summary of the Invention

The following summary is an edited excerpt based on the Summary of the Invention section in Appellant's specification, page 3, lines 10-21:

A system is disclosed for attaching a radio frequency transponder ("RF tag) to a conveyor trolley having a wheel, a hub, an outer rim, and a web connecting the outer rim of the wheel to the hub of the wheel. The wheel's web is narrower that the wheel's rim such that first and second recesses are formed between the hub and the outer rim on respective sides of the web. The RF tag is embedded in a block of plastic material, the block being configured to fit within the first annular recess of the trolley. The block of material containing the RF tag is secured to the wheel in the first annular recess.

In one embodiment, the web may further comprise spokes having openings formed therebetween. In this embodiment, the block is secured to the wheel by a clamping member that is positioned in the second annular recess and fastened to the block by a fastener.

VI. Issues

1. *Whether the Examiner failed to set forth a prima facie case of obviousness through the combination of Black et al. (US 6,494,305) in view of Heckman (US 4,708,066) or Black et al. as modified by Heckman and further in view of Mitchell (US 3,708,847) and thus failed to make obvious under 35 U.S. C. § 103 Appellant's invention as claimed in independent claims 1, 13, 20, 21, 22 and 23.*

2. *Whether the Examiner's modification of this combination by stating that the securing the block containing the RF tag into the recess of the wheel, which none of the cited references teach or suggest, to yield Appellant's invention as claimed in independent claims 1, 13, and 20-23 is proper.*

VII. Grouping of Claims

Group I: Claims 1– 12 stand together.

Group II: Claims 13-19 stand together.

Group III: Claim 20 stands alone.

Group IV: Claims 21-23 stand together.

VIII. Argument

A. REASONS FOR ALLOWABILITY OF THE CLAIMS

1. The Examiner by relying on Black et al. (US 6,494,305) in view of Heckman (US 4,708,066) or Black et al. as modified by Heckman and further in view of Mitchell (US 3,708,847) failed to present a prima facie case of obviousness and therefore improperly rejected Appellant's independent claims 1, 4, 13, and 20-23 under 35 U.S.C. § 103.

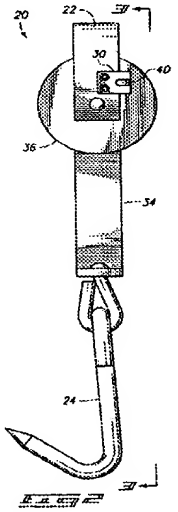
Claims 1-4, 6, 7,13-16 and 20-22 were rejected under 35 U.S.C. 103 as being unpatentable over Black et al. in view of Heckman.

In order to establish a case of prima face obviousness, three basic criteria must be met:

1) there must be some suggestion or motivation to combine the references;
2) there must be a reasonable expectation of success; and
3) the prior art references must teach or suggest all of the claim limitations.

The Examiner's case for obviousness fails every one of these criterion.

The Examiner relied on Black et al. as teaching a mounting apparatus for attaching a transponder (RF tag) directly to a conveyor trolley of a trolley assembly.



The Examiner acknowledged that Black et al. does not fairly suggest a mounting apparatus having a recess formed between the hub and the outer rim or that the block is shaped to and is received within the recess. The Examiner relies on Heckman as teaching a wheel having a hub, an outer rim, and a web connecting the outer rim to the hub, wherein the web comprises a plurality of spokes separated by openings, the spokes having a thickness less than the thickness of the outer rim and a recess formed between the hub and the outer rim.

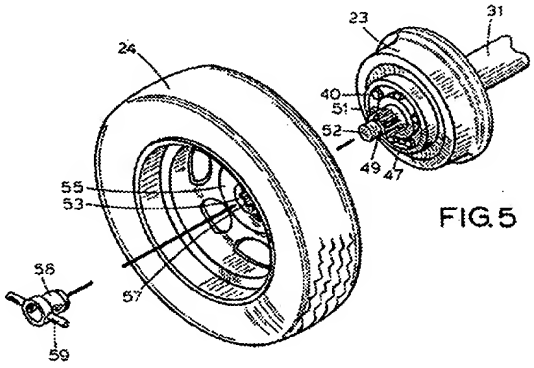


FIG. 5

The Examiner then concludes that it would have been obvious to incorporate the recess between the hub and the outer rim of Heckman into Black et al.

Applicant respectfully traverses this rejection. Claims 13-19 and 21-23 not only require that the wheel has a recess formed between the hub and that the block is shaped to be received therein (which is not taught by the combination of Black and Heckman), but further requires that the transponder tag is mounted in this recess. This is **not** taught nor suggested by any of the cited references.

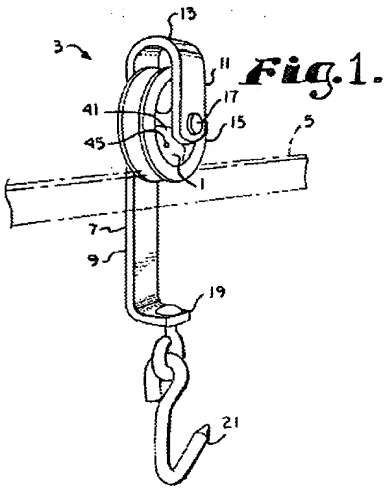


Fig. 1.

Heckman discloses a "tag assembly" (defined as a rear set of rail wheels). Each rear rail guide wheel of the "tag assembly" is adapted for assembly with an associated spare road wheel (24) and moveable in response to up and down movement of the entire tag assembly (22). (Col. 3, ll. 4-9). Heckman does not teach nor suggest the use of a transponder or anything remotely similar thereto. Heckman's wheel is designed for a vehicle that can be used on both train rails and the highway. The wheel has a recessed web section. Nothing similar to a RF tag is mounted in or about the recessed web section of the spare road wheel.

The Examiner disregards the lack of any reference teaching the placement of a transponder on a trolley wheel, and specifically in the recess of a trolley wheel, and states that this modification would have been obvious by an artisan skilled in the art.

There is no suggestion or motivation to combine Black's carcass tracking apparatus mounted to a trolley with Heckman's Combination Rail and Highway vehicle. Before obviousness may be established, the Office Action must show specifically the principle, known to one of ordinary skill that suggests the claimed combination.[1] In other words, the Examiner must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention.[2] The Examiner states that all that was missing in Black et al. was the claimed recess (Appellant disagrees with this assumption and that is further discussed below) and thus Heckman is a proper reference. But what is missing is an explanation of why an artisan skilled in the art of trolley assemblies would look to a combination highway/railroad vehicle tire for a solution to the problem of placing an RF tag on a trolley that would lessen the probability of the loosening of the transponder. The Examiner failed to establish either a suggestion in the art or a compelling motivation based sound scientific principles to combine references and thus the 35 U.S.C. §103 rejection is improper.[3]

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[1] In re Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002).
[2] Id.
[3] It appears that the Examiner may have searched for the term "tag assembly" and since Heckman's real rail wheels are called "tag assemblies," the examiner relied on Heckman. This reliance is improper.

Further, there is no reasonable expectation of success in combining the rear rail wheels with Black's carcass tracking apparatus. The wheels differ vastly in size, structure and functionality. And, even as combined, the wheel of Heckman does not provide a reasonable expectation of success. One of the reasons for needing a change from what was previously done is that RF tags placed on the trolley strap (e.g., Black's system), is that the tag is in an exposed position. (Specification p. 2, lines 19-21). Simply using Heckman's wheel having a recessed web with Black's trolley assembly does not solve this problem. The missing element—securing the RF tag in the recessed web—is the crucial element to the success of the invention.

No reference cited by the Examiner teaches or suggests the limitation of an RF tag mounted in a recess of the wheel for transmitting an identifying signal. This limitation is required in pending claims 13-19, 21-23. Black teaches mounting a transponder on the trolley strap body that supports the wheel and not the wheel itself. Heckman provides no teaching nor any suggestion pertaining to a transponder. A statement by the Examiner that this limitation is obvious to a person skilled in the art does not meet the requirements for prima facie obviousness.

With respect to claims 17-19 and claim 23, the examiner rejected these claims under 35 U.S. C. 103(a) as being unpatentable over Black et al. as modified by Heckman in the same manner as applied by the examiner with respect to claims 1, 4, and 13. Here, the Examiner notes that Black et al. as modified by Heckman fails to teach or fairly suggest that the block is securable to the web of the wheel by a clamping member that is a second block of material, but suggests that Mitchell teaches the use of a clamping means comprising four clamp plates secured to spokes of the web of a wheel via a recess, and, thus, that it would have been obvious to incorporate the clamping member of Mitchell into the teachings of Black and Heckman to provide it with a more secure system to hold and secure the block having the RF tag to the wheel so as to prevent separation of the block from the wheel.

As noted above by Appellant, Black et al. and Heckman do not teach Appellant's invention as claimed in claims 13-19, 21-23 and are disparate references that cannot properly be combined. Mitchell does not correct these

failings. Mitchell discloses a method for mounting pneumatic tires on vehicle wheels. A bead portion (16) of the wheel well (6) forms a means by which the rim and tire assembly may be demountably secured to the wheel center by incorporating clamp means (18) to engage the bead portion (16). The clamping means 18 comprises four clamp plates 22 secured to one end of each wheel spoke 20 to engage the outer side of the bead portion 16 of the wheel well portion 6 so as to grip the bead portion 16 between the clamp plate and the spoke in the manner of vice-jaws. Mitchell fails for the same reason as Heckman fails. Mitchell does not teach the use of a recess for any transponder, tag, or any identification purposes. It simply teaches the use of a clamp to grip a bead portion of the well of a wheel to which a rim and tire assembly may be mounted. There is no suggestion in Mitchell to combine it with Black et al. or Heckman, nor any suggestion in Black et al. or Heckman to combine either with Mitchell so as to prevent an RF tag from being exposed, separating, or loosening.

Thus, Appellant respectfully submits that it would not have been obvious to incorporate the clamping member of Mitchell with Black et al./Heckman to provide a more secure system to secure a block containing a RF Tag. To combine these references would be improper hindsight reconstruction and the Examiner has failed to produce a reference that fairly teaches or suggests the claimed limitation that the RF transponder, which is embedded in a block of material, is mounted to the wheel itself.

With respect to claims 5 and 10, the Examiner rejected these claims under 35 U.S. C. 103(a) as being unpatentable over Black et al. as modified by Heckman and further in view of Hoffman (US 5,156,533). For the reasons stated above, the invention of the instant application is not obvious in view of Black et al. as combined with Heckman. Similarly, Hoffman et al. contains no teaching about RF tags or trolley identification means, nor is there any suggestion in Hoffman et al. that it be combined with Black et al. or Heckman to mount a plastic block containing a RF tag within a recess in a trolley wheel to prevent separation, loosening, or falling of the block.

Therefore, for at least the above reasons, the Examiner failed to set forth a prima facie case of obviousness under 35 U.S.C. § 103 for Appellant's invention as recited in each one of the independent claims 1, 4, 12, and 20-23.

IX. Conclusion

The combination of Black et al. in view of Heckman forms the basis for the rejection of each of Appellant's claims in the final action of record. Because Appellant has shown that this combination did not establish a prima facie case of obviousness and that this combination further is deficient with respect to teaching or suggesting at least one element (e.g., shaped to be received in the recess or the RF tag being mounted in the first annular recess) in each of Appellant's independent claims 1, 4, 12, and 20-23, every rejection of these claims must therefore fail. .

Allowability of the independent claims dictates that each of the dependent claims is also allowable by virtue of inherency. Therefore, Appellant believes that dependent claims 2–3, 5-11, and 13-19 are also allowable, since each of these claims depends from an allowable independent claim.

Appellant therefore believes that all pending claims are allowable over the cited art because, *inter alia*, the present Office Action fails to establish a *prima facie* case of unpatentability for any of the claims. Such a *prima facie* case is non-existent because, among other things, (1) there is no prior art presented that individually or cumulatively teaches or suggests each of the elements of any of Appellant's claims, and (2) no proper motivation is provided to modify the teachings of the Black et al. reference. During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If the PTO fails to meet this burden, then the applicant is entitled to the patent. *In re Glaug*, 62 USPQ2d 1151 (Fed. Cir. 2002).

Appellant believes that claims 1–23, for at least the above reasons, are not obvious in view of the cited art to one skilled in the art having knowledge thereof.

Accordingly, Appellant respectfully submits that claims 1–23 are patentable over the prior art and respectfully requests this Board to so indicate.

Respectfully submitted,

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X. APPENDIX OF CLAIMS ON APPEAL

1. (Original) A mounting apparatus for attaching an RF tag to a conveyor trolley having a wheel with a hub, an outer rim, and a recess formed between the hub and the outer rim, said mounting apparatus comprising a block of material to which the RF tag is secured, said block being shaped to be received within the recess and securable to the wheel.

2. (Original) The mounting apparatus as in Claim 1 wherein the RF tag is at least partially imbedded in said block.

3. (Original) The mounting apparatus as in Claim 1 wherein said block is of an annular or partially annular shape which closely conforms to an annular recess in the wheel.

4. (Original) A mounting apparatus for attaching an RF tag to a conveyor trolley having a wheel with a hub, an outer rim, and a web connecting the outer rim to the hub, the web comprising a plurality of spokes separated by openings, the spokes having a thickness which is less than the thickness of the outer rim such that first and second annular recesses are formed between the hub and the outer rim on respective sides of the spokes, the mounting apparatus comprising a first block of material to which the RF tag is secured, said first block being shaped to be receivable within the first annular recess of the trolley wheel, said first block securable to the wheel.

5. (Original) The mounting apparatus as in Claim 4 wherein said first block is formed of a plastic material and the RF tag is at least partially imbedded therein.

6. (Original) The mounting apparatus as in Claim 4 wherein said first block is of an annular or partially annular shape which closely conforms to the annular recess.

7. (Original) The mounting apparatus as in Claim 4 wherein said first block is shaped to extend into one of the openings in the web.

8. (Original) The mounting apparatus as in Claim 4 wherein said first block is securable to the web of the wheel by a clamping member and a fastener, said clamping member positionable in the second annular recess opposite said first block, said fastener extendable through one of the openings in the web to secure said clamping member to said first block and to draw said first block and said clamping member together against the web.

9. (Original) The mounting apparatus as in Claim 8 wherein said clamping member is a second block of material shaped to be receivable within the second annular recess of the trolley wheel opposite said first block.

10. (Original) The mounting apparatus as in Claim 9 wherein said second block is formed of a plastic material.

11. (Original) The mounting apparatus as in Claim 9 wherein said second block is of an annular or partially annular shape which closely conforms to the annular recess.

12. (Original) The mounting apparatus as in Claim 9 wherein said second block is shaped to extend into one of the openings in the web.

13. (Amended) A conveyor trolley comprising:

a) a strap having first and second legs connected by an arch;

b) a wheel having a hub, an outer rim, and a web connecting said outer rim to said hub, said web having a thickness which is less than the thickness of said outer rim such that a first annular recess is formed between said hub and said outer rim; said wheel being rotatably mounted on an axle between said first and second legs of said strap;

c) a hook extending downward from said first leg for suspending a load therefrom; and

d) an RF tag mounted in said first annular recess <u>of said wheel</u> for transmitting an identifying signal.

14. (Original) The conveyor trolley as in Claim 13, wherein said RF tag is imbedded in a first block of material shaped to conform to a portion of said first annular recess.

15. (Original) The conveyor trolley as in Claim 13 wherein said first annular recess is adjacent said second leg and said second leg terminates proximate said axle.

16. (Original) The conveyor trolley as in Claim 14 wherein said web comprises a plurality of spokes separated by openings, and said first block is shaped to extend into one of said openings between said spokes.

17. (Original) The conveyor trolley as in Claim 16 and further including:

a) a second annular recess on the opposite side of said web from said first annular recess; wherein

b) said first block is mounted in said first recess by a clamping member seated in said second recess and secured to said first block by a fastener such that said first block and said clamping member abut opposite sides of at least one of said spokes with said fastener extending through said one opening.

18. (Original) The conveyor trolley as in Claim 17 wherein said clamping member is a second block of material shaped to conform to a portion of said second annular recess.

19. (Original) The conveyor trolley as in Claim 18 wherein said second block is shaped to extend into said one opening.

20. (Amended) An identification system for a conveyor trolley, the identification system comprising,

a wheel for engaging a track, the wheel including a hub, an outer rim, and a web connecting the hub to the outer rim, the web having a thickness less than the thickness of the outer rim, and

an RF tag embedded in a block of material, the block of material being shaped to fit between the hub and the outer rim of the wheel and being mounted to the web.

21. (Original) A method of attaching an RF tag to a conveyor trolley having a wheel with a hub, an outer rim, and a recess formed in the wheel between the hub and outer rim, said method comprising the steps of:

a) embedding said RF tag in a block of material shaped to fit within the recess;

b) placing said block in the recess; and

c) securing said block to the wheel.

22. (Original) A method of attaching an RF tag to a conveyor trolley having a wheel with a hub, an outer rim, and a web connecting the hub to the outer rim, the web having a thickness which is less than the thickness of the outer rim, said method comprising the steps of:

a) embedding said RF tag in a block of material shaped to fit between the hub and outer rim of the wheel adjacent the web; and

b) attaching said block to the web in a protected position between the outer rim and the hub.

23. (Original) A method of attaching an RF tag to a conveyor trolley having a wheel with a hub, an outer rim, and a web connecting the hub to the outer rim, the web comprising a plurality of spokes with openings formed therebetween, the web having a thickness which is less than the thickness of the outer rim such that first and second annular recesses are formed between the hub and the outer rim on respective sides of the web, said method comprising the steps of:

a) securing said RF tag to a block of material shaped to fit into one of said annular recesses;

b) placing said block in the first annular recess;

c) placing a clamping member in the second recess opposite said block;

d) connecting said clamping member to said block with a threaded fastener extending through one of the openings in the web;

e) tightening said threaded fastener to draw said block and said clamping member together and against said spokes.

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